

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



re Patent Application of

CROSSLAND et al

Atty. Ref.: 124-931

Serial No. 10/085,140

Group:

Filed: March 1, 2002

Examiner:

For: ACTIVE SEMICONDUCTOR BACKPLANE

* * * * *

Assistant Commissioner for Patents
Washington, DC 20231

RECEIVED

AUG 02 2002

Sir:

OFFICE OF PETITIONS

DECLARATION IN SUPPORT OF PETITION UNDER 37 CFR §1.47(A)

I, Philip Davies, hereby declare as follows:

(1) That I am a European patent attorney currently employed by QinetiQ Limited, the successor in interest with respect to the above-identified patent application to the Defence Evaluation and Research Agency (DERA), a part of The Secretary of State for Defence of the UK government;

(2) That I have responsibility for three PCT and U.S. applications listed as follows:

(a) U.S. Application 10/084,652, filed February 28, 2002, entitled "Spacers for Cells Having Spaced Opposed Substrates" with inventors William A. CROSSLAND, Timothy D. WILKISON and Tat C. B. Yu, which is a Continuation of U.S. Serial No. 09/868,306, filed June 18, 2001, under our reference of P2750/USW, which is a national stage entry of PCT/GB99/04282;

- (b) U.S. Application 10/085,140, filed March 1, 2002, entitled "Active Semiconductor Backplane" with inventors William A. CROSSLAND and Tat C. B. Yu, which is a Continuation of U.S. Serial No. 09/868,229, filed June 15, 2001, under our reference of P2803/USW, which is a national stage entry of PCT/GB99/04279;
- (c) U.S. Application 10/094,958, filed March 12, 2002, entitled "Active Backplane Circuitry, Spatial Light Modulator Comprising Such a Circuitry, and Method of Operating Such a Spatial Light Modulator" with inventors William A. CROSSLAND and Tat C. B. Yu, which is a Continuation of U.S. Serial No. 09/868,218, filed June 15, 2001, under our reference of P2804/USW, which is a national stage entry of PCT/GB99/04274.

(3) That each of the inventions disclosed and covered by the above three patent applications included material from Mr. Tat C. B. Yu, who at the time of the invention was a research student at Cambridge University working under Professor William A. Crossland.

(4) That the inventions covered by the claims in the above-mentioned patent applications were generated by the inventors at Cambridge University under a contract between Cambridge University and The Secretary of State for Defence, and thus QinetiQ Limited, as the successor in interest to The Secretary of State for Defence with respect to these three applications, is the party in interest and is the owner of rights by virtue of assignments from the other co-inventors. A copy of the Contract is attached hereto as Exhibit A.

(5) Subsequent to entry of the U.S. national phase of each of the above applications, I forwarded a copy of each application to Mr. Yu, along with a letter requesting his cooperation in reviewing and forwarding a signed Declaration form and Assignment form with respect to each of the three applications. A copy of said letter is attached hereto is attached as Exhibit B.

As of the present, I have received no response from Mr. Yu. Mr. Yu's last known address was at the University of Cambridge and is as follows:

Tat Yu
University of Cambridge
Department of Engineering
Trumpington Street
Cambridge CB2 1PZ
United Kingdom.

(6) I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 10 July 2002

P. Davies

Philip Davies

Attachments:

Exhibit A
Exhibit B

Contra
University of Cambridge
Dept. of Engineering
Trumpington Street
Cambridge CB2 1PZ
FAO Prof W A Crossland

Issued with DEFCON
on:-

CONTRACTS-IN-CONFIDE

Defence Research Agency, Malvern

**SCHEDULE OF REQUIREMENTS
FOR
A Fast Bit Plane Spatial Light
Modulation for Optical Signal
Processing & Display Applications**

DEFCON 110

(Edn 180)

S90/65

CONTRACT NO:
MAL 1b/2256

Previous Ct No (Renewal Cts only)

Requirements

| Item No | Description | FIRM PRICE |
|---------|---|---|
| | To undertake the design, build, test and delivery of a fast bit-plane SLM in accordance with the University's proposal dated August 1993. | |
| 1. | Completion of the design and functional specifications. Acceptance of report by DRA. | £15,000 (Fifteen thousand pounds) |
| 2. | Completion of choice of liquid crystal materials. Acceptance of report by DRA. | £40,000 (Forty thousand pounds) |
| 3. | Completion of the design and fabrication of jigs and fixtures. Acceptance of report by DRA. | £15,000 (Fifteen thousand pounds) |
| 4. | Completion of assembly of SLM devices. Acceptance of report by DRA. | £35,000 (Thirty five thousand pounds) |
| 5. | Acceptance by DRA of all deliverables. Acceptance of Final Report by DRA. | £21,120 (Twenty one thousand, one hundred and twenty pounds) |

CONDITIONS OF CONTRACT The Contract is subject to:- the attached conditions.

DEFCON

EXHIBIT

A

24-11-93 SB

1. Contracts Branch
Defence Research Agency CB/MAL/1b3
St Andrews Road, Malvern,
Worcs WR14 3PS
Tel: 0684 896369 Fax: 0684 896310
2. Technology Area Manager (from whom technical information is available)
TAM EO & I, Room PB204, DRA Malvern,
St Andrews Road, Malvern, Worcs. WR14 3PS
Tel: (0684) 895719
3. Project Manager
Dr M Stanley, Room KX006, DRA Malvern,
St Andrews Road, Malvern, Worcs. WR14 3PS
Tel: (0684) 895422
4. (a) Management Accountant
MA/EL, Room PC 113, Address as Box 2.
Tel No.
(b) UIN P8946A
5. Drawings/Specifications are available from
See Box 2.
6. Mauve Copies of MOD Form 640 are to be sent to
See Box 2.
(where no address is shown the mauve copy should be destroyed)
7. Quality Assurance Authority
(from whom any of the following documents may be obtained)
To the satisfaction of the Technology Area Manager
(See Box 2).
In addition to the General Conditions, the following Quality Assurance requirements apply:-
BS 5750.
AQAPs and DEFSTANs are available from Stan 1, Kentigern House,
65 Brown St, Glasgow, G2 8EX. A self addressed label should be sent with each application.

| | | | |
|--|---------------------------|------------------------------|-----------------------------|
| For Official Use Only | Recoverable | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| Issue of Government property | | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| VAT Contractor - Country of Origin (delete those not applicable) | | | |
| UK | Overseas (non-EC Country) | Overseas (EC Country) | |
| If EC specify country | | N/A | |
| Outside the scope | | Item Nos | |
| Exempt | | Item Nos | |
| Taxable-Zero Rate | | Item Nos | |
| Taxable Standard Rate | | Item Nos | ALL |

(where contract is with an overseas contractor RP(FIN)VAT
Guidance Note No 3 should be consulted)

8. Public Accounting Authority
(for Government owned stores issued or to be held by the contractor)
Ministry of Defence AcS (EAC)
Mersey House, Drury Lane
Liverpool, L2 7PX Tel: 051-236-8080
Fax 051-242-2477
9. Consignment Instructions
The items are to be consigned as follows
See Box 2.
10. Transport The appropriate Ministry of Defence Transport Office is at:-
A. Room B1/4, Leatherhead Road, Chessington, KT9 2LU
B. Logistics Executive (Army), Movement Control Centre, (MGO), Building 60, Portway, Monxton Road, Andover, Hants, SP11 8HT
C. 0264-382123 for ex-works contracts placed in UK
D. 0264-382381 for imports from Europe
11. Purchase Ledger (see Note 2)
Defence Research Agency, Room D4A1
St Andrews Road, Malvern, Worcs WR14 3PS
Tel: 0684 896069
12. Forms and Documentation are available from
Ministry of Defence CSE 2C
Mwrgw Road
LLANGENNECH, Llanelli SA14 8YP
A self-addressed label should be sent with each application
- NOTES**
1. VAT. (Where SC13 applies). The contractor is responsible for the determination of VAT liability. The contractor should consult his local VAT office (and not the Contracts Branch) in cases of doubt. The contractor should notify the Contracts Branch of his VAT liability under the Contract.
2. Forms. All contracts forms including MOD Form 640, AG Forms 169 and 173, are available from the address shown at Box 12.

| | |
|------------------------------------|--------------------|
| Finance Branch | MA/E1 |
| LH No/Project No | P49A800X - CER3X |
| Reqn No | |
| Project Management/Prod Branch ref | Electronics Sector |
| Place of manufacture | Cambridge |
| Place of packaging | N/A |
| Contractor's tel no | |

To: THE SECRETARY OF STATE FOR DEFENCE

We acknowledge receipt of your Department's Letter of Offer reference **MAI 15/2256** dated **November 1993** with associated documents and confirm that we accept the offer contained therein. We understand that by accepting the Department's offer, we are entering into a legally binding contract. We agree that any other terms and conditions or any general reservations, which may be printed on any of our correspondence in connection with this work, shall not be applicable to the contract. We confirm that we are proceeding with the work.

Where the work to be performed under the contract will not be wholly carried out at our premises situated at the address below, details of where the work will be carried out are specified in the "Other Work" Box.

We agree that the contract shall be subject to English Law (Standard Conditions Nos 29 and 30) unless we here state a preference for Scots Law (Standard Conditions Nos 29a and 30a).

Signed:

Name: (BLOCK CAPITALS)

W A CROSSLAND (SCIENTIST)
N J WRIGHT (ADMINISTRATOR)Signature of this DEFCON constitutes acceptance of the
Ministry's offer, thereby creating a legally binding contractDated this 17th day of
November (month)
1993 (year)

Address:

Department of Engineering
University of Cambridge
Trumpington Street
Cambridge CB2 1PZ

In the capacity of:

Professor of Photonics
Secretary of the Department

(eg Director, Manager, Secretary etc)

Telephone:

0223 330264

Duly authorised to sign contracts for and on
behalf of:University of Cambridge
Department of Engineering(If Scots Law is to apply please sign below)
We require that Scots Law shall apply to the
Contract

(Signed)

| Nature of Other Work | By Whom Performed | Address | Place of Work (if other than Address) |
|---|--|--|--|
| Design and build of electronic interface. | Dr Stewart Lang | University of Cambridge Computer Laboratory New Museums Site Pembroke Street Cambridge | |
| Fabrication of silicon VLSI circuit. | To be decided, probably Austria Mikro Systeme. | | |

CONDITIONS OF CONTRACT

1. GENERAL CONDITIONS

a. Standard Conditions of Government Contracts for Stores Purchases (Form GC/Stores/1 - Edition April 1979) shall apply:-

Part I Nos 1-13 inclusive, 16, 18-21 inclusive, 24 and 25.

For the purposes of SC10 references to SC14 shall be understood to refer to Defcon 92.

For the purpose of SC No 21 references to the Official Secrets Act 1911-1939 shall be understood to include the Official Secrets Act 1989.

For the purpose of SC 24 and 25 the appropriate period shall be (30) thirty days.

| | | |
|---------|-----|--|
| Part II | Nos | 29 - Law (English) |
| | | 30 - Arbitration (English Law) |
| | | 31 - Use of Documents, Information, etc |
| | | 32a - Patents, etc |
| | | 32b - Contracts for Defence Material subject to Defence Contracts Act 1958 - Agreements in Relation to Technical Information |
| | | 42 - Materials Requirements |
| | | 56 - Break |

The periods of notice for the purpose of Clauses (1) and (6) (b) of this condition shall be 3 months and 2 months respectively.

60 - Tests

b. The following General and Special Conditions:

DEFCON 5 (Edn 11/92) - MOD Form 640 - Advice and Inspection Note Signature by MOD QAR.

DEFCON 92 (Edn 8/90) - Failure of Performance.

DEFCON 123 (Edn 11/91) - General Conditions of Contract .

The Contractors attention is drawn to paragraph 14 of DEFCON 123 requiring notification of overseas expenditure. In this connection the Contractor shall, within one month of acceptance of contract, notify the Contracts Branch of details of any overseas sub-contract or order he has placed, or intends to place, in aid of the contract. Details to be provided are:

Country
Name of Sub-Contractor/Supplier
Value of Order
Date placed or to be placed

If no overseas orders are to be placed, the Contractor shall advise the Contracts Branch to this effect in the same timescale.

DEFCON 515 (Edn 3/93) - Bankruptcy and Insolvency.

2. SCOPE OF WORK

All work under this Contract shall be undertaken in accordance with the Contractors Proposal Reference Q2197 dated 23 July 1993 and shall be to the requirements and satisfaction of the Technical Authority. (See Box 2 - Appendix to Contract).

3. PRICE

The price stated in the Schedule of Requirements shall be a Firm Price for all the work to be undertaken, and shall include the costs of all deliverable items.

4. DELIVERY

All work under this contract shall be completed and delivered by 1 April 1995.

5. MEETINGS

The Contractor shall convene progress meetings on dates mutually agreed with the Project Manager and provide all necessary facilities including secretarial support.

6. REPORTS TO BE MADE BY THE CONTRACTOR

6.1 Two copies of Technical Reports shall be provided and shall be to the satisfaction of both the Technical Area Manager and the Project Manager for each progress meeting.

6.2 FINAL REPORT - shall contain the following information:-

- i) Full details of the manufacturing methods, materials processes, build standards and pilot QA procedures, defined in the course of the programme.
- ii) A full listing of all items that were procured outside the EEC, identifying the supplier and source country in each instance.
- iii) A full listing of all items which were only available from a single source.
- iv) A full listing of all Elect.

7. SUB-CONTRACTS

7.1 The Contractor shall not place any sub-contract or order involving the design or development of equipment required under this Contract without the prior approval of the Contracts Branch.

7.2 The Contractor shall not enter into any commitment in relation to any equipments to be produced under this Contract, until the sub-contractor has entered into an agreement with the Authority in the form set out in Annex A. Wherever possible the request for approval should be accompanied by two copies of the agreement signed by the sub-contractor. If, in any case the Contractor is unable to comply with this Condition he shall report the matter to the Contracts Branch and await further instructions before placing the sub-contract or order.

7.3 Where the Contractor enters a sub-contract with a supplier or contractor for the purpose of performing the Contract, he shall cause a term to be included in such sub-contract which requires payment to be made to the supplier or Contractor within a specified period not exceeding 30 days from receipt of a valid invoice as defined by the sub-contract requirements.

9. COMMERCIAL EXPLOITATION

The conditions for Commercial Exploitation shall be as stipulated in Annex 'B' hereto.

10. SUPPLY OF INFORMATION ABOUT SUBSTANCES REFERRED-TO IN THE MONTREAL PROTOCOL.

As a signatory to the Montreal Protocol on Substances that deplete the Ozone Layer, Her Majesty's Government is committed to the reduction of the production and consumption of those Substances controlled under the Protocol. Therefore, Her Majesty's Government wishes to know which substances listed at Annex C are contained in the Articles the subject of this Offer of Contract. Accordingly, you must provide, with your Offer of Contract a list specifying:-

- (i) all substances listed at Annex C (adopting the nomenclature used therein) contained in the articles (including the packaging thereof, whether or not specified in the Contract), and
- (ii) the quantity of each of the substances listed at Annex C contained in the Articles, and
- (iii) where in the Articles (including packaging) the substances listed at Annex C are contained, or
- (iv) confirm that you have a "Nil Return" in respect of (i), (ii) and (iii) above.

1. PAYMENT

Payment for Items 1-5 will be made in arrears. Claims should be submitted to TAM EO & I for approval on AG Form 210 for Items 1-4 and MOD Form 640 for Item 5.

12. INTELLECTUAL PROPERTY RIGHTS

(i) Subject to the rights of third parties arising otherwise than under this Contract, all rights in the results of the work done by or on behalf of the Contractor for the purpose of this Contract, including inventions, designs and copyright material, shall vest in and be the property of the Authority, who reserves the right to determine whether any patent shall be applied for or the results of the work published, and if so on what conditions. The Contractor shall ensure that, where necessary, he secures the rights necessary to effect such vesting.

(ii) The Contractor, if requested and at the expense of the Authority, shall do all things necessary to enable the Authority to obtain patent or similar protection as the Authority may require.

ANNEX A TO CONTRACT NO: MAL 1b/2256

MINISTRY OF DEFENCE

DESIGN RIGHTS AND PATENTS (SUB-CONTRACTORS) AGREEMENT

THIS AGREEMENT is made the..... 17th day of..... November..... 19⁹³

BETWEEN University of Cambridge, Department of Engineering,

whose registered office is at .. Trumpington Street, Cambridge, CB2 1PZ

(hereinafter called "the Sub-Contractor") of the one part and THE SECRETARY OF STATE FOR DEFENCE (hereinafter called "the Secretary of State") of the other part

WHEREAS:-

(1) The Secretary of State has placed with (hereinafter called "the main contractor") a contract bearing the reference number MAL 1b/2256 (hereinafter called "the main contract") for the design and development of Fast Bit Plane SLM the effect of which is that the costs of such design and development (including the cost referable to any sub-contracts hereinafter referred to) will be substantially borne by the Secretary of State.

(2) The main contractor contemplates that the design development and supply of certain components needed for the performance of the main contract will be undertaken by various third parties in pursuance of sub-contracts made between them and the main contractor.

(3) With a view to securing to the Secretary of State rights as regards inventions designs and other related matters in respect of any such sub-contract the main contract provides that the main contractor shall not enter into any sub-contract for any component aforesaid without obtaining the prior approval of the Secretary of State.

(4) The main contractor has now informed the Secretary of State that for the purpose of performing the main contract he wishes to place with the Sub-Contractor a sub-contract for the design and development of the items described in the First Schedule hereto (hereinafter called "the sub-contract items") and has requested the Secretary of State's approval of the sub-contract accordingly.

(5) The Secretary of State has signified his willingness to approve the sub-contract on condition that in consideration of his giving approval the Sub-Contractor enters into a direct Agreement with the Secretary of State concerning the matters hereinafter appearing and the Sub-Contractor has signified his willingness to enter into such an agreement.

NOW THIS AGREEMENT made in consideration of the premises and of the rights and liabilities hereunder mutually granted and undertaken.

ITNESSETH AND IT IS HEREBY AGREED AND DECLARED as follows:-

1. The Sub-Contractor and the Secretary of State hereby agree to be mutually bound to each other by the provisions of the (Titles of Clauses specified in the Second Schedule to be specified here) Clauses as set out in the Second Schedule hereto.
2. No extension alteration or variation in the terms of the sub-contract between the main contractor and the sub-contractor and no other agreement between the main contractor and the sub-contractor relating to the work to be done under the sub-contract or any modification now or hereafter made thereto shall prejudice the operation of this Agreement which shall in all respects apply to the sub-contract as so extended altered varied supplemented or modified as if such extension alteration supplementation or modification had been originally provided for in the sub-contract and the expression "the sub-contract items" shall have effect accordingly.

IN WITNESS whereof the parties hereto have set their hands the day and year first
before written

W. J. ... *[Signature]*

Signed on behalf of the Sub-Contractor

Professor of Photonics
(in capacity of Secretary of the Department.....)

Signed on behalf of
The Secretary of
State for Defence

THE FIRST SCHEDULE

The Sub-Contract Items are:-

- 1) Design and build electronic interface.....
- 2) Fabrication of silicon VLSI circuit.....
-
-
-

THE SECOND SCHEDULE

The Clauses which apply to this Agreement are:

1. Standard Conditions of Government Contracts for Stores Purchases (Form GC/Stores/1 - Edition April 1979):

Part II Nos 31 - Use of Documents, Information, etc 32a - Patents, etc 32b - Contracts for Defence Material subject to Defence Contracts Act 1958 - Agreements in Relation to Technical Information

2. The following Ministry of Defence Conditions:

DEFCON 14 (Edn 10/82) - Inventions and Designs.Crown Rights and Ownership of Patents and Registered Designs.

DEFCON 15 (Edn 8/74) - Design Rights.

(i) This Condition is qualified as follows:

For the purposes of this Contract, the term "the said design" in DEFCON 15 shall apply to any material, technique or process of manufacture developed under this Contract, as well as to any design developed; and the term "articles to the said Design" shall apply to anything produced by use of the said Design hereby defined.

(ii) This Condition is amended as follows:

DELETE Clause 3 in entirety and

SUBSTITUTE a new Clause 3 as follows:

Before placing a first order for production of Articles to the said Design, the Authority will give consideration to placing that order with the Contractor provided that he can offer satisfactory price, delivery and other terms (whether established in competition or otherwise). The Authority reserves the right to determine what constitutes a "first order for production" for the purpose of this Clause. For any subsequent order or orders for the production of Articles to the said Design the Authority will normally seek competitive tenders. The Authority undertakes to invite the Contractor to tender (provided that he is still eligible to supply Articles to the Authority) and to consider such representations as the Contractor might make in that connection. In all cases (including the first production order) the Authority will have in mind its responsibility to place orders in the most cost effective manner and does not undertake to place the first or any subsequent order or orders for the production of Articles to the said Design with the Contractor. The decision of the Authority in any matter or thing arising out of this Clause shall be final and conclusive.

EFCON 90 (Edn 12/89) - Copyright Clause (Applicable to all Documentation Supplied and Technical Reports Produced under the Contract). For the purpose of clause the appropriate Nations shall be

3. Except that the aforementioned Standard Conditions and Ministry of Defence Conditions are amended as follows:

- (i) Where "the Contractor" is stated "the Sub-Contractor" shall be substituted.
- (ii) Where "the Authority" is stated "the Secretary of State" shall be substituted.
- (iii) Where "Contract" is stated "sub-contract" shall be substituted.
- (iv) Where "sub-contractor" is stated "further sub-contractor" shall be substituted.
- (v) Where "sub-contract" is stated "further sub-contract" shall be substituted.

NNEX B TO CONTRACT NO: MAL 1b/2256

**COMMERCIAL EXPLOITATION OF DEFENCE EQUIPMENT DEVELOPED AT
GOVERNMENT EXPENSE**

1. In this agreement the following shall have the effect with respect to interpretation:
 - a. "the Contract" mean(s) Contract No MAL 1b/22 between the Authority and the Contractor relating to/for A Fast Bit Plane Spatial Light Modulation for Optical Signal Processing & Display Applications.
 - b. "Contract Article" means any article which uses the design produced under the Contract(s) and includes any sub-assemblies, components or spares thereof;
 - c. "Government-funded tooling" means jigs and tools, etc, provided or paid for by the Authority and required for the production of a Contract Article;
 - d. the "Contractor" includes any subsidiary or associated Company of the Contractor;
 - e. "leviable transaction" means a sale or any other transaction giving rise to levy under this Agreement;
 - f. the "Contractor's selling price" means, subject to the proviso hereto, the price for which the Contractor invoices his customer but excluding the costs of such of the following elements as are applicable and can be identified to the satisfaction of the Authority:
 - i. Freight costs and insurance.
 - ii. Cost of packaging not developed at UK Government expense.
 - iii. The cost of ECGD servicing and other sales finance charges including interest on customer credit.
 - iv. The cost of any MOD inspection.
 - v. Installation and commissioning costs where installation and commissioning form no part of the work under the development contract(s).
 - vi. Agents' fees and commission.
 - vii. The price paid by the Contractor for an article or articles supplied to him by a third party for the incorporation in the Contract Article, but only if such third party has a separate commercial exploitation agreement with the Authority relating to such article or articles and has been informed by the Contractor that such article or articles are being used for a leviable transaction.
 - viii. Value Added Tax where applicable.

provided that any element of profit which the Contractor has included in the above items i-vii shall not be so included;

g. "Profit" other than for the purposes of the proviso to sub-clause 'f' of this Clause means the difference between the Contractor's selling price and the allowable costs as prescribed by the Authority for the purpose of the sale in question, provided such difference is a positive sum.

Sales and Licences

2. Should the Contractor sell any Contract Article, other than for any purpose set out in Clauses '5' and '6' hereof, the Contractor shall pay to the Authority:

a. a levy for the use of the design to be calculated at 7½ per cent of the Contractor's selling price (except that the percentage rate of levy may be revised at the end of the development Contract if the Contractor or the Authority can demonstrate that the design relied more, or less, on private venture research and development than was assumed in agreeing the levy rate);

b. a levy of 2½ per cent of the Contractor's selling price for the use of Government-funded tooling except that the rate of 2½% per cent shall be reduced appropriately where a substantial part of jigs and tools etc used in connection with a sale or other transaction have not been provided or paid for by the Authority:

except that, unless otherwise agreed by the Authority, levy on individual sales above £15m in value (for which purpose contemporaneous sales of the same equipment to the same customer will count as one sale) will be payable on an appropriate profit sharing basis to be agreed between the Contractor and the Authority before the Contract of sale is entered into. The threshold of £15m may be increased from time to time by the Authority, in relation to future sales, to take account of inflation.

3. Should the Contractor grant a licence to manufacture Contract Articles, the Contractor shall pay to the Authority a levy calculated at 33 1/3 per cent of the gross receipts of the Contractor in money by way of royalties, licence fees or otherwise in respect thereof.

Provided that:

a. where the consideration consists wholly or in part of some benefit other than money the levy shall, in lieu of or in addition to such payments (as the case may be), consist of or include a sum representing 33 1/3 per cent of what may reasonably be regarded as the value of the said benefit; and

b. the Contractor shall not grant any licence for which there is no consideration, or only nominal consideration, without first agreeing with the Authority what levy if any should reasonably be paid to the Authority in respect of such licence; and

where the licensee pays for parts supplied in addition to paying his licence fee for manufacturing Contract Articles, levy on such parts shall be due in accordance with Clause 2 above in addition to the rate due under this Clause. The receipts by the Contractor in respect of such parts shall not be regarded as receipts in respect of the licence on which the levy of 33 1/3 per cent is charged.

4. Payment of levy is deemed to include payment for the use of any industrial property rights owned by the Authority in connection with a sale or other transaction giving rise to levy under this Agreement.

5. No levy shall be payable in respect of:

a. purchases by the Authority;

b. purchases by another UK Government Department or Departments as defined and notified by the Authority from time to time;

c. sales to another UK Government Contractor or sub-contractor when the Contract Articles concerned can be clearly identified as being supplied to meet the requirements of the Authority;

d. substantial individual equipments not developed at UK Government expense.

6. In the case of sales to the Government of Australia, whether directly or under a sub-contract, of Contract Articles which are Guided Weapons or other items which have been developed with the aid of the Joint Project facilities at the Weapons Research Establishment, Woomera, and of spares for elements of such systems, the levy shall be restricted to a charge for the use of Government funded tooling in accordance with Clause 2 'b'.

Sales of or Licensing of Spares or Parts

7. The sale of or licence to manufacture spares or parts of Contract Articles shall attract levy in accordance with this Agreement unless the Authority agrees that an allowance may be made for any elements of the design of any such spare or part that were not developed at UK Government expense or a reduced rate of levy shall apply on all such spares and parts where there are practical difficulties in distinguishing between those which attract the full rate of levy, those which attract a reduced rate of levy and those on which no levy is due.

Derivatives

8. Should the Contractor sell, refurbish, recondition, maintain, lend, hire, or grant a licence to manufacture any articles in any further stage of development or articles based on the design of, or using design features of, or being a scaled version of, the Contract Article, levy calculated in accordance with this Agreement shall be due to the Authority only to such extent as shall be reasonable in the circumstances. Subject to this the provisions of this Agreement shall apply.

Government-funded tooling. Contract Articles made and used by the Contractor for any other purpose shall attract levy at normal rates in accordance with Clause 2.

Abatement of Levy

13. Where, in the circumstances of an individual sale, the Contractor considers that the effect upon his selling price of inclusion of levy rates calculated in accordance with Clause 2 would be such as to prejudice his chances of completing the sale, or would result in an unreasonably low profit, it shall be open to the Contractor before the sale Contract is entered into to seek the approval of the Authority to an abatement scheme in accordance with the provisions of Clauses 14 and 15 herein. Provided that the Contractor's cost accounting system is adequate in the opinion of the Authority to provide the statements of allowable costs necessary to implement the scheme such approval will not be unreasonably withheld.

14. The abatement scheme shall generally determine levy on the basis of outturn profitability of the sale in question expressed as a percentage on the allowable costs as prescribed for this purpose by the Authority and shall apply as follows:

- a. where Government-funded tooling is used, the first 1/2 % of profit on cost shall be payable to the Authority;
- b. the next 5% of profit on cost (or the initial 5% where sub-clause 14 'a' does not apply) shall be retained by the Contractor;
- c. the remaining profit, without upper limit, shall be shared between the Authority and the Contractor in the ratio of 1:1 until a total profit of 25% on cost has been reached, and thereafter in the ratio of x:1.

15. Once a request to apply the abatement scheme has been approved by the Authority it shall not thereafter be revoked by either party for the sale in question. The Contractor shall provide on request and in a specified form a certified statement of costs and profitability and such facilities as may be necessary for the Authority, if it so desires, to verify the statements. Where the value of the sale is less than £500,000 any abatement of levy may, at the discretion of the Authority, be settled (before the sale Contract entered into is concluded) on the basis of the expected outturn profitability provided the request for abatement is supported by adequate evidence and reasonable notice is given to the Authority.

Notification of Leviable Transactions

16. The Contractor shall notify details including, where appropriate, the expected value of the sale, to the Contracts branch named in the Contract quoting the number of the Contract:

- a. in respect of a sale of any Contract Articles or of a development or derivation thereof;

as soon as it becomes apparent that a sale (or contemporaneous sales of the same equipment to the same Customer) above £15m in value (or such higher value as may be notified by the Authority from time to time) may arise;

- ii. immediately a first sale of lesser value is entered into;
- b. immediately any negotiations for the grant of a licence for the manufacture of any Contract Articles, or of a development or derivation thereof, is entered into (the Authority reserves the right in this connection to be supplied with a copy of the terms of the licence agreement); or
- c. in respect of any leivable transaction other than a sale or licence relating to any Contract Articles, or to a development or derivation thereof;
 - i. immediately the transaction is entered into where the rate of levy is laid down in this Agreement;
 - ii. immediately negotiations are entered into where the appropriate rate of levy has not been agreed.
- d. when any proposed extension or alteration to the transactions set out in 'a i', 'b' or 'c ii' is considered.

Cancelled Orders

17. Where a sale is cancelled after some work in aid of the sale involving the use of Government-funded tooling has been undertaken, a levy shall be due in respect of such use calculated on a fair and reasonable basis. Where the Contractor has received any payments, whether from his customer or otherwise which he is entitled to retain, in respect of work done or in hand, or in respect of any claim arising out of the cancellation, levy shall also be due on a fair and reasonable basis having regard to the reasonable costs and claims which the Contractor may have to meet therefrom. The Contractor shall notify any such cancellation to the Contracts Branch named in the Contract and shall provide such information as may reasonably be required for the determination of the levies payable under this Clause. Should any Contract Article (or Article falling under Clause 8) manufactured or in course of manufacture prior to cancellation subsequently be resold levy will again be due on the normal basis.

Liability Date

18. The liability of the Contractor to the Authority for any sum due under this Agreement shall accrue:

- a. in respect of sales, on the date of delivery ex-Contractor's works or, where the sale Contract so prescribes, upon shipment;
- b. in respect of cancelled sales, six months after the date of cancellation or such longer period as may be agreed;

in the case of licences, and in any other case in which levy is based on gross receipts by the Contractor in respect of an agreement relating to Contract Articles, on the date of receipt by the Contractor of each payment;

d. in respect of the use of Government-funded tooling where no other liability for levy arises, upon completion of the work in question, except that if the work takes longer than a year interim payments of levy will accrue as deliveries take place. In the event of cancellation of the sale liability will accrue six months thereafter;

e. in respect of any Variation of Price settlements on receipt of payment by the Contractor.

Payment of levy shall be in accordance with the accounting provisions at Clauses 21-24 below.

19. Where ~~an~~ abatement scheme has been approved in accordance with Clauses 13-15 the Contractor shall be liable for interim payment of levy in accordance with the provisions of Clause 18 at one half the appropriate unabated levy rate unless the Authority agrees otherwise. A final adjustment to or from the Authority shall be made as soon as it is practicable after completion of the sale. The Authority reserves the right to review and alter interim rates of levy from time to time and agrees to carry out such a review upon request by the Contractor.

20. Should the Contractor fail to provide statements under Clause 22 within a reasonable time the Authority reserves the right to assess the levy payable and to recover the same.

Accounting

21. The Contractor shall supply to D/Acs (Bills), Acs (Bills) Receipts Mersey House, Drury Lane, Liverpool L2 7PX, two copies of a statement (see Clause 22) at six monthly intervals commencing with first sale or licensing arrangements (see Clause 16).

22. The statement shall contain information concerning every sale, licence or other transaction in respect of which levy accruing during the period to which the statement relates is payable, and in particular shall specify:

a. the nature of the transaction (making clear under which of the Clauses 2-12 hereof it falls) and the date thereof and the name and address of the other party or parties thereto;

b. in the case of a sale, the quantity and type of equipment sold, the selling price, and in any other case, the gross receipts in money in respect thereof and the nature and value of any consideration other than money;

c. any other matters relevant to determine the levy payable

the sum (to the nearest pound) computed to be payable by the Contractor to the Authority in respect of each transaction (including a provisional sum in any case in which the sum depends upon a reasonable figure yet to be agreed with the Authority)

23. The statement shall be provided not later than two months after the close of the period to which it relates once a first sale or licensing has been agreed and 'nil' statements shall thereafter be provided whenever appropriate.

24. Each statement shall be accompanied by a payment of the accrued levy calculated by the Contractor to be due and set out in the statement. Invoices in respect of any other accrued levy will be issued to the Contractor by the Director of Accounts (Bills), Acs (Bills) Receipts, Ministry of Defence. Payments shall be made to the Secretary of State for Defence at the address to which statements are to be supplied, or at the address stated on the invoice, as appropriate.

25. Two copies of an annual certificate that the sums reported on the statements are correct and complete and in accordance with the Contractor's books of account and records or that no sales have been made or licences granted or other leivable transactions entered into, shall be obtained by the Contractor from his Auditors and shall be forwarded to the Director of Accounts (Bills), Acs (Bills) Receipts not later than six months after the end of the Contractor's financial year.

26. For the purpose of verifying the statements the Contractor shall maintain proper books of account and records at his premises and shall make them available for inspection at all reasonable times by the representatives of the Authority and of the National Audit Office.

Recovery of Sums Due

27. Whenever under this Agreement any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted from any sum then due, or which at any time thereafter may become due, to the Contractor under any Contract with the Authority or with any Department or Office of Her Majesty's Government.

Arbitration etc

28. This agreement shall be considered as an agreement made in England and subject to English Law.

29. All disputes, differences or questions between the parties to this agreement with respect to any matter arising out of or relating to this Agreement shall be referred to this Arbitration of two persons (one to be appointed by the Authority and one by the Contractor) or their Umpire, in accordance with the provisions of the Arbitration Act 1950.

30. Nothing in this Agreement shall be construed as relieving the Contractor from responsibility for:

- a. obtaining the necessary export licence as applicable to any overseas sale;
- b. obtaining any necessary release from security restrictions in force for the Contract Articles.

31. Contractor's are advised to consult the appropriate Directorate of Marketing in Stuart House, 23/25 Soho Square, London W1V 5FJ, on a case basis before making offers to sell Contract Articles overseas.

ONTREAL PROTOCOL SUBSTANCES

ANNEX C TO CONTRACT MAL 1b/2256

| <u>SUBSTANCE</u> | <u>CHEMICAL NAME</u> |
|---------------------|---|
| | Carbon Tetrachloride |
| | 1,1,1 Trichloroethane (Methyl Chloroform) |
| CFC 11 | Trichlorofluoromethane |
| CFC 12 | Dichlorodifluoromethane |
| CFC 13 | |
| CFC 111 | |
| CFC 112 | |
| CFC 113 | Trichlorotrifluoroethane |
| CFC 114 | Dichlorotetrafluoroethane |
| CFC 115 | Chloropentafluoroethane |
| CFC 211 | |
| CFC 212 | |
| CFC 213 | |
| CFC 214 | |
| CFC 215 | |
| CFC 216 | |
| CFC 217 | |
| 1 | |
| CFC 500 (*Footnote) | |
| 2 | |
| CFC 502 (*Footnote) | |

HALON

| | |
|------|----------------------------|
| 1211 | Bromochlorodifluoromethane |
| 1301 | Bromotrifluoromethane |
| 2402 | Dibromotetrafluoroethane |

***Footnote:-**

CFC 500 is a blend of CFC 12 and HFC152a.
CFC 502 is a blend CFC 115 and HCFC22.

COVERING RESTRICTED UK EYES B

~~DEFCON 19 (Edn 1/76) - Free User, Maintenance and supply of Drawings~~

2/7/93

DEFCON 21 (Edn 1/58) - Drawings, Specifications and Manufacturing Data. (For the purpose of Clause 3 thereof the Authority reserves the rights to use the drawings etc. and or any parts thereof for whatever purposes we deem necessary, including competitive tendering.)

DEFCON 90 (Edn 12/89) - Copyright Clause (Applicable to all Documentation Supplied and Technical Reports Produced under the Contract). For the purpose of Clause 4c the appropriate Nations shall be NATO member countries.

3. Except that the aforementioned Standard Conditions and Ministry of Defence Conditions are amended as follows:

- (i) Where "the Contractor" is stated "the Sub-Contractor" shall be substituted.
- (ii) Where "the Authority" is stated "the Secretary of State" shall be substituted.
- (iii) Where "Contract" is stated "sub-contract" shall be substituted.
- (iv) Where "sub-contractor" is stated "further sub-contractor" shall be substituted.
- (v) Where "sub-contract" is stated "further sub-contract" shall be substituted.

Tat Yu
University of Cambridge
Department of Engineering
Trumpington Street
Cambridge CB2 1PZ

8 August 2001
Our ref P2803/2804/2750
Your ref

Dear Mr Yu,

Patent Applications for Fast Bit Plane Spatial Light Modulator

In December 1999 The Secretary of State for Defence filed a number of International patent applications for aspects of the Fast Bit Plane Spatial Light Modulator developed under contract MAL 1b/2256. QinetiQ has recently been formed out of what used to be the Defence Evaluation and Research Agency and is successor in title for these applications.

You are listed as inventor on three of these patent applications, namely;

PCT/GB99/04279 (Our Ref: P2803) – Active Semiconductor Backplanes

PCT/GB99/04274 (Our Ref: P2804) – Active Backplane Circuitry, Spatial Light Modulator comprising such a Circuitry, and Method of operating such a Spatial Light Modulator

PCT/GB99/04282 (Our Ref: P2750) – Spacers for Cells having Spaced Opposed Substrates

A copy of each of these three patent applications as published is enclosed herewith.

These patent applications have recently entered the national phase in the US. It is a requirement in the US that each inventor signs an oath and declaration and assignment to confirm that they agree that the list of inventors is correct and confirming ownership of the invention. I therefore enclose suitable forms for each of the above applications and would be grateful if you could sign and date each form where indicated. Please also note the requirement for the forms to be witnessed.

I hope that this is acceptable. If you have any queries please do not hesitate to contact me.

Yours sincerely,



Phil Davies
Patent Attorney

Cc:

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EXHIBIT

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